

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A dental articulating device configured to duplicate at least a portion of a patient's mouth for use in producing a dental prosthesis, the device comprising:
 - a) a pair of trays, pivotally coupled together, the trays pivoting with respect to one another between:
 - i) a closed configuration, in which the trays are opposingly spaced-apart from one another; and
 - ii) an open configuration, in which the trays are pivoted away from one another; and
 - b) a hinge, integrally formed with the trays and positioned between the trays, including:
 - i) a pivot axle, associated with one of the trays;
 - ii) a shoulder, extending at least partially around the pivot axle and creating two axle portions extending on each side of the shoulder; and
 - iii) a single pair of fingers, associated with another of the trays, with only two fingers pivotally positioned on opposite sides of the pivot axle and on opposite sides of the shoulder and separated by both the axle and the shoulder so that a single finger is disposed on each side of the shoulder.
2. (original) A device in accordance with claim 1, further comprising:

a pair of arms, each extending between a different one of the trays and the hinge, and pivotally coupled together by the hinge.
3. (original) A device in accordance with claim 1, further comprising:
 - a) a pair of lower arms extending from a lower tray;
 - b) a pair of upper arms extending from an upper tray;
 - c) a pair of hinges, each disposed between a different one of the upper and the lower arms; and
 - d) the pair of hinges including a pair of pivot axles, the pivot axles being

collinear.

4. (currently amended) A device in accordance with claim 1, wherein the single pair of fingers slidably bear against the axle and the shoulder.

5. (original) A device in accordance with claim 1, wherein the axle is coupled to the tray by the shoulder.

6. (currently amended) A device in accordance with claim 1, wherein the ~~opposite~~ single pair of fingers are curved and include a curvature oriented orthogonal to the pivot axle.

7. (original) A device in accordance with claim 6, wherein the hinge further includes:
a curved channel, circumscribing a portion of the pivot axle, and movably receiving one of the fingers therein.

8. (original) A device in accordance with claim 1, wherein at least one of the dental trays further includes:

a) an array of registration pin holes, formed in the dental tray, each configured to receive a registration pin; and

b) a thin membrane, extending across the registration pin holes and closing off the registration pin holes, the thin membrane being piercable by a registration pin when inserted into the hole.

9. (original) A device in accordance with claim 1, wherein at least one of the dental trays further includes:

registration struts having a hexagonal cross section.

10. (original) A device in accordance with claim 1, wherein at least one of the dental trays further includes:

a trough formed by a perimeter wall, the perimeter wall having a wavy profile

with a plurality of arcuate indentations.

11. (currently amended) A method for forming a dental model, comprising the steps of:

a) forming prepped and opposing models of prepped and opposing teeth on lower and upper trays of a dental articulator, the prepped model including a model of a prepped tooth to receive a dental prosthesis and the opposing model including a model of an opposite tooth opposite the prepped tooth; and

b) pivoting the lower and upper trays about a hinge integrally formed with the trays, the hinge including a first portion with a shoulder circumscribing an axle and a second portion with ~~opposing~~ a single pair of fingers with only two fingers movably disposed on opposite sides of the axle and on opposite sides of the shoulder, the single pair of fingers slidably gripping both the axle and the shoulder as the lower and upper trays pivot about the hinge.

12. (original) A method in accordance with claim 11, further comprising the step of:

segmenting the prepped model on sides corresponding to the prepped tooth to form a prosthesis die.

13. (original) A method in accordance with claim 11, wherein the step of forming the prepped model further includes the step of:

positioning registration pins in registration pin holes in at least one of the trays, including positioning at least one registration pin at a location corresponding to the prepped tooth.

14. (original) A method in accordance with claim 13, wherein the step of positioning registration pins further includes the step of:

pressing the registrations pins through a thin membrane extending across the registration pin holes.

15. (original) A method in accordance with claim 11, wherein the step of forming the

prepped model further includes the step of:

disposing dental casting material over registration pin holes in at least one of the trays with a thin membrane extending across the registration pin holes to resist the dental casting material from substantially filling the registration pin holes.

16. (original) A method in accordance with claim 11, wherein the step of forming the prepped model further includes the step of:

disposing dental casting material around registration struts in at least one of the trays, the registration struts having a hexagonal cross section.

17. (original) A method in accordance with claim 11, wherein the step of forming the prepped model further includes the step of:

disposing dental casting material in at least one of the trays with a trough formed by a perimeter wall, the perimeter wall having a wavy profile with a plurality of arcuate indentations.

18. (currently amended) A method for forming a dental model, comprising the steps of:

a) obtaining an impression of at least some of a patient's teeth, the impression including a prepped side with an impression of a prepped tooth to receive a dental prosthesis, and an opposing side with an impression of an opposing tooth opposing the prepped tooth;

b) disposing the impression between upper and lower trays of a dental articulator;

c) introducing dental casting material between the upper tray and the opposing side of the impression to form an opposing model of the opposing tooth;

d) introducing dental casting material between the lower tray and the prepped side of the impression to form a prepped model of the prepped tooth;

e) removing the impression from the dental articulator leaving the opposing and the prepped models on the respective upper and lower trays; and

f) pivoting the upper and the lower trays about a at least one hinge integrally formed with the trays, the hinge including a first portion with a shoulder substantially

circumscribing an axle and a second portion with ~~opposing~~ a single pair of fingers with only two fingers movably disposed on opposite sides of the axle and on opposite sides of the shoulder, the single pair of fingers slidably gripping both the axle and the shoulder as the lower and upper trays pivot about the hinge.

19. (original) A method in accordance with claim 18, further comprising the step of:
segmenting the dental casting material of the prepped model on sides
corresponding to the prepped tooth to form a prosthesis die.

20. (original) A method in accordance with claim 18, further comprising the step of:
positioning registration pins in registration pin holes in at least one of the trays
prior to introducing dental casting material into the tray, including positioning at least one
registration pin at a location corresponding to the prepped tooth.

21. (original) A method in accordance with claim 20, wherein the step of positioning
registration pins further includes the step of:
pressing the registrations pins through a thin membrane extending across the
registration pin holes.

22. (original) A method in accordance with claim 18, wherein the step of introducing
dental casting material further includes the step of:
disposing the dental casting material over registration pin holes with a thin
membrane extending across the registration pin holes to resist dental casting material
from substantially filling the registration pin holes.

23. (original) A method in accordance with claim 18, wherein the step of introducing
dental casting material further includes the step of:
disposing dental casting material around registration struts in at least one of the
trays, the registration struts having a hexagonal cross section.

24. (original) A method in accordance with claim 18, wherein the step of introducing dental casting material further includes the step of:

disposing dental casting material in a trough formed by a perimeter wall, the perimeter wall having a wavy profile with a plurality of arcuate indentations.

25. (currently amended) A method for forming a dental model, comprising the steps of:

a) obtaining an impression of at least some of a patient's teeth, the impression including a prepped side with an impression of a prepped tooth to receive a dental prosthesis, and an opposing side with an impression of an opposing tooth opposing the prepped tooth;

b) obtaining a dental articulator with upper and lower trays pivotally coupled together by a at least one hinge integrally formed with the trays, the hinge including a first portion with a shoulder substantially circumscribing an axle and a second portion with ~~opposing~~ a single pair of fingers with only two fingers movably disposed on opposite sides of the axle and on opposite sides of the shoulder, the single pair of fingers slidably gripping both the axle and the shoulder as the lower and upper trays pivot about the hinge;

c) disposing dental casting material on the upper tray and in the opposing side of the impression;

d) disposing the opposing side of the impression over the upper tray so that dental casting material extends therebetween and forms an opposing model of the opposing tooth;

e) positioning registration pins in registration pin holes in the lower tray, including positioning at least one registration pin at a location corresponding to the prepped tooth;

f) disposing dental casting material on the lower tray and in the prepped side of the impression;

g) disposing the lower tray over the prepped side of the impression so that the dental casting material extends therebetween and forms a prepped model of the prepped tooth; and

h) removing the impression from the dental articulator.

26. (canceled)

27. (canceled)

28. (canceled)

29. (canceled)

30. (new) A dental articulating device configured to duplicate at least a portion of a patient's mouth for use in producing a dental prosthesis, the device comprising:

a) a pair of trays, pivotally coupled together, the trays pivoting with respect to one another between:

i) a closed configuration, in which the trays are opposingly spaced-apart from one another; and

ii) an open configuration, in which the trays are pivoted away from one another;

b) each tray having a pair of arms, each arm extending rearwardly and outwardly with respect to the trays; and

b) a pair of hinges, disposed between the pair of arms, each hinge including:

i) a pivot axle collinear with respect to a pivot axle of the other hinge;

ii) a shoulder, extending at least partially around the pivot axle and creating two axle portions extending on each side of the shoulder; and

iii) a single pair of fingers, associated with another of the trays, with only two fingers pivotally positioned on opposite sides of the pivot axle and on opposite sides of the shoulder and separated by both the axle and the shoulder so that a single finger is disposed on each side of the shoulder.